Operations in Response to Recent Heavy Rains (Jan 26-29, 2016)

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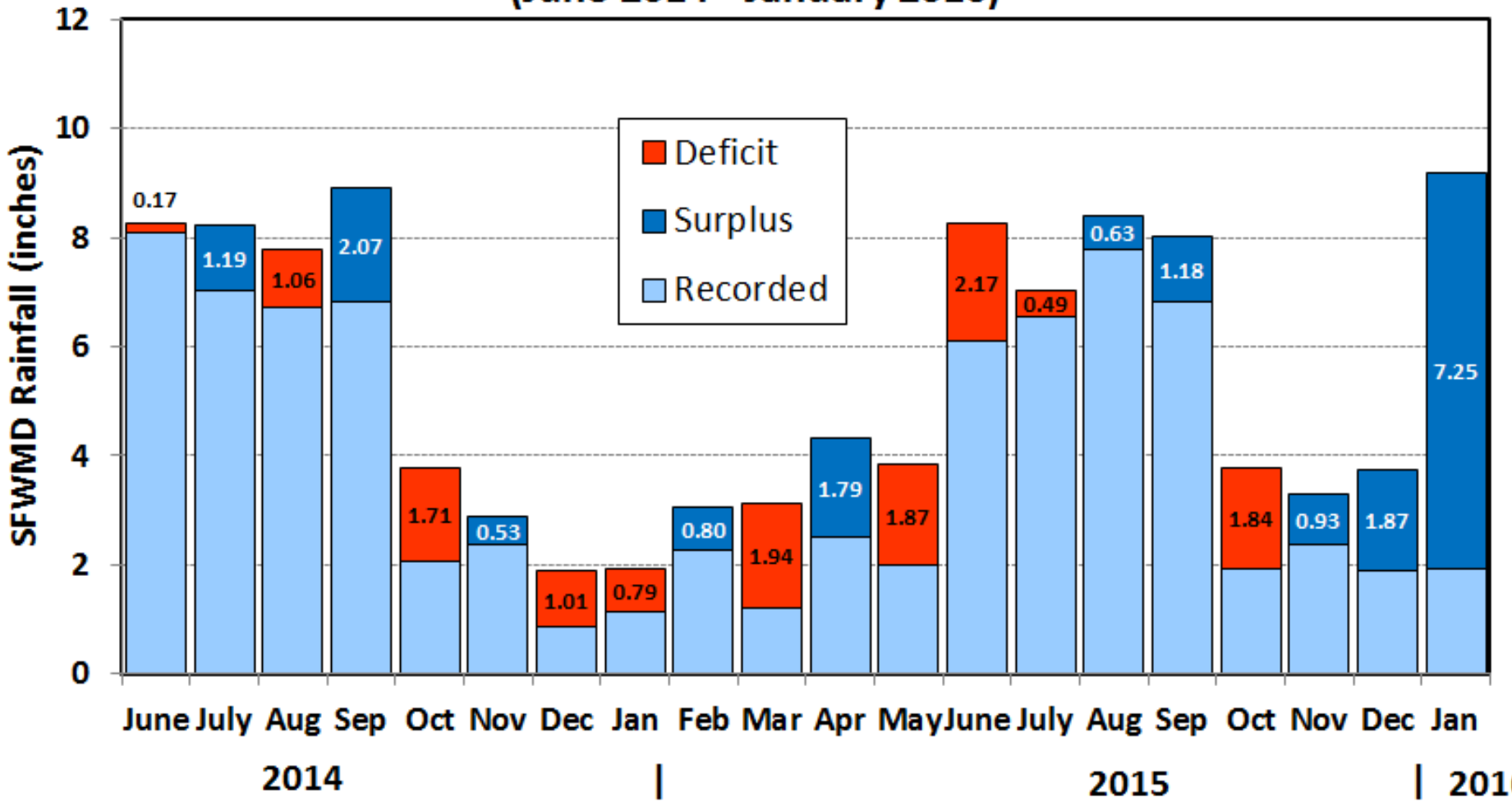
Engineering and Construction

S-6 Pumping Operations into STA-2

SFWMD Rainfall Distribution Comparison

(June 2014 - January 2016)



2014 WET SEASON:
- May 26th – Oct 4th
- Near average (108%)

2014-15 DRY SEASON:
- May was 51% below average
- Dry Season 86% of average

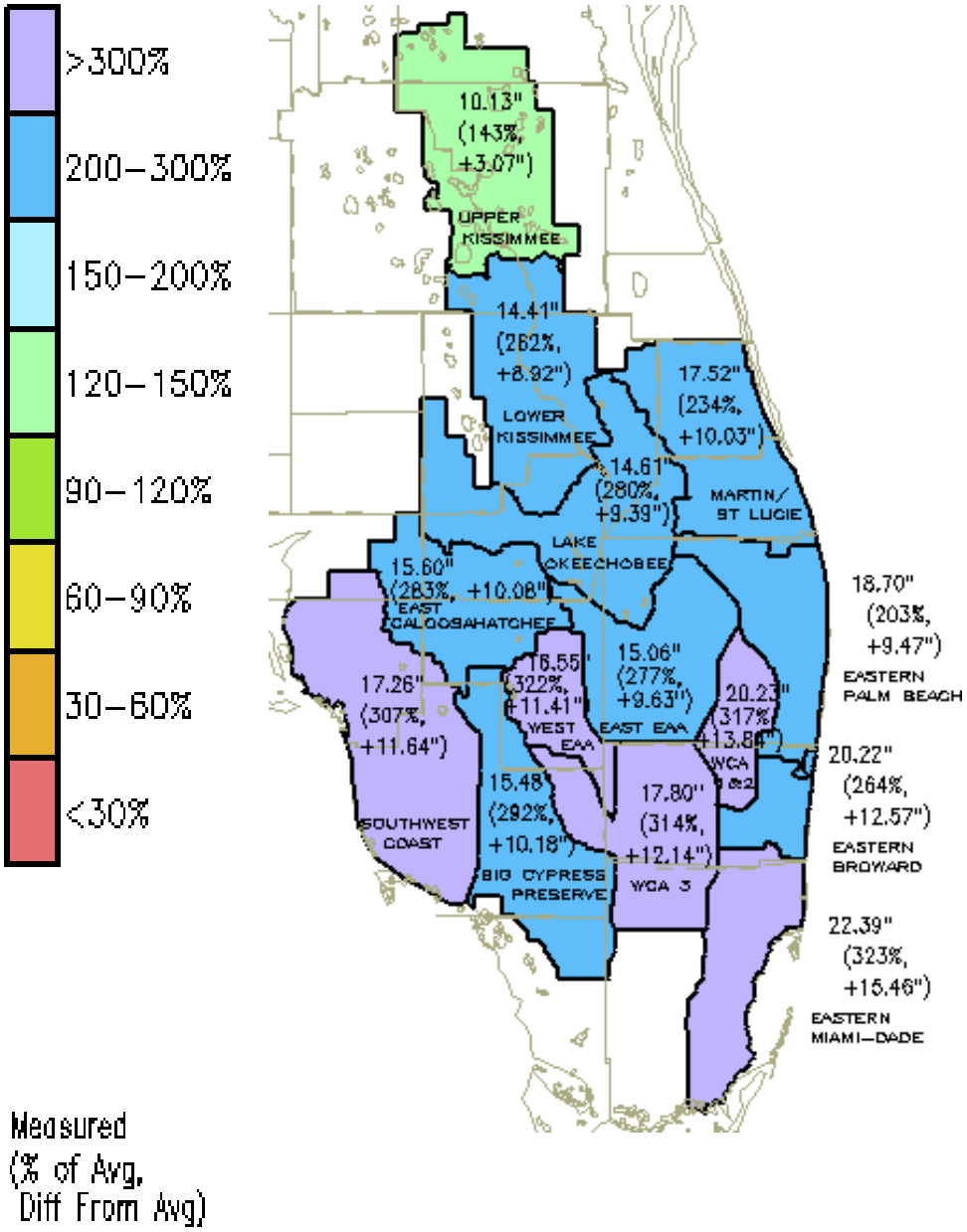
2015 WET SEASON:
- Driest May-July since 2004
- Ended below average

2015-16 DRY SEASON:
- Nov 2015-Jan 2016 wettest since 1932
- Jan 2016 wettest since 1932
- Dry Season is projected to be well above average

SFWMD

2015-2016 Dry Season Rainfall

(02-Nov 2015 to 01Feb 2016)



DISTRICT-WIDE: 16.22” 267% of Avg, or +10.14”)

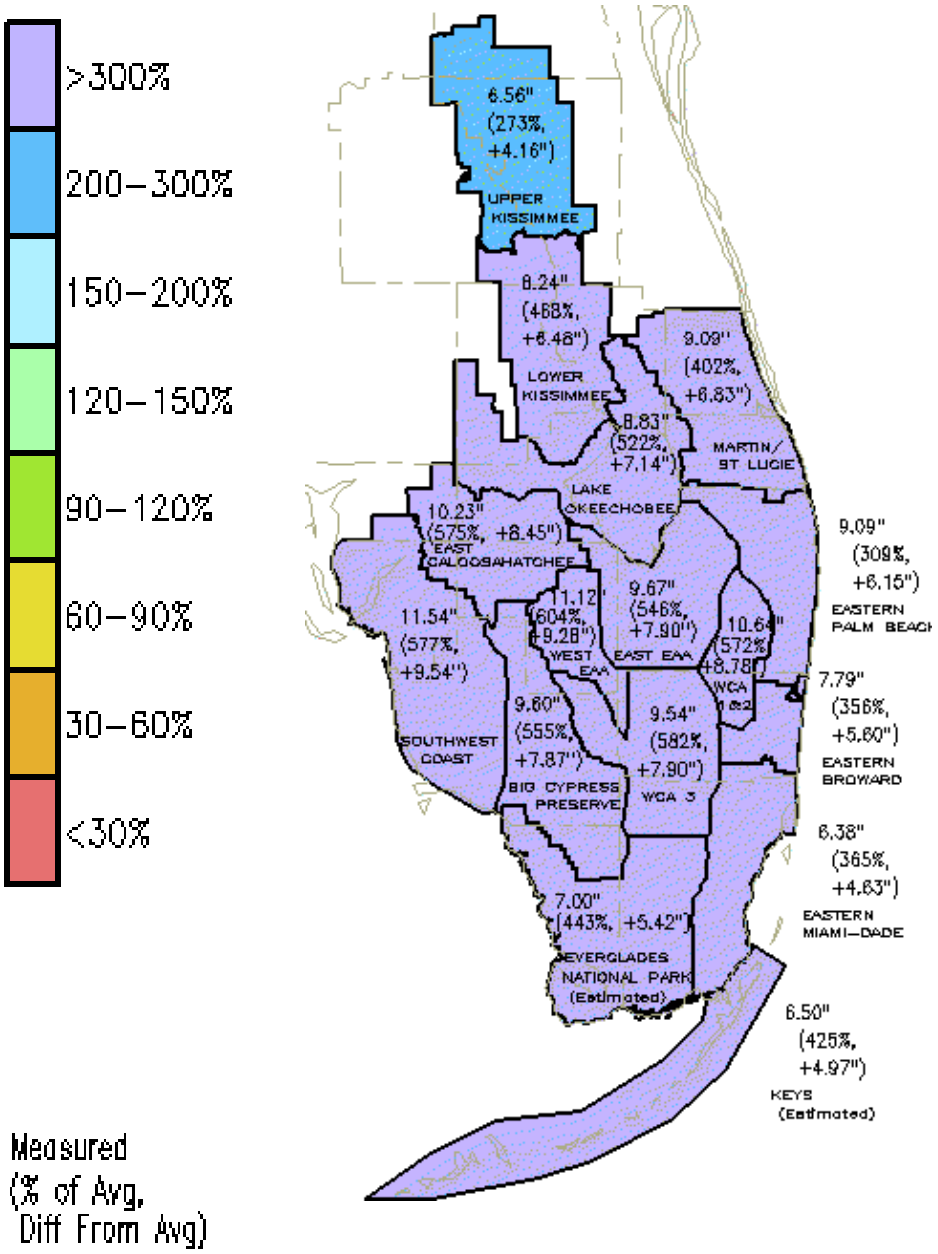
- **District rainfall for current dry season is above average after a very dry October 2015.**
- **Nearly all basins are 200% or more above average**
- **Upper Kissimmee is the lowest with 143% of average**
- **November, December and January, the start of the dry season, was the wettest for this period since record keeping began in 1932.**

SFWMD

Jan 2016 Rainfall

(02-Jan to 01-Feb 2016)

DISTRICT-WIDE: 9.18” 476% of Avg, or +7.25”)



- **Wettest January since record keeping began in 1932.**
- **Second wettest 7 months season month back 1932**
- **Record setting with 476% of average.**
- **Nearly all basins received more than 300 percent of average**

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

S-80

C-44 CANAL

LAKE OKEECHOBEE

C-43 CANAL

S-79

WPB CANAL

STA-1E/1W

NNR/HILLSBORO CANALS

MIAMI CANAL

WCA-1

STA-2

STA-3/4

WCA-2A

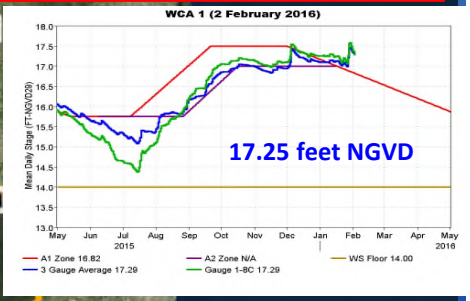
WCA-3A

S12

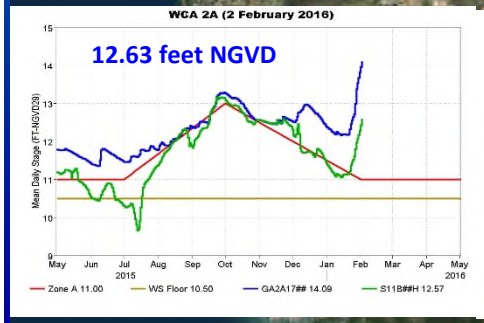
A B C D

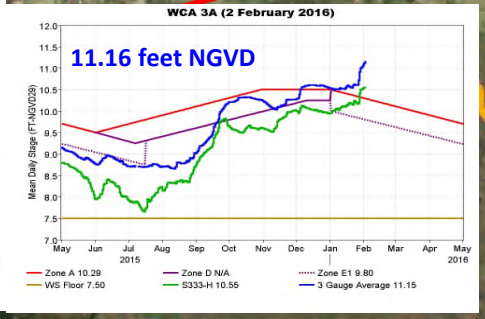
ENP EAST

Small and limited capacity for lake releases to STA 1E.



Canals south from Lake Okeechobee have no capacity. No capacity to move lake water through the Conservation Areas due to high stages. STAs do not have capacity to treat Lake releases.



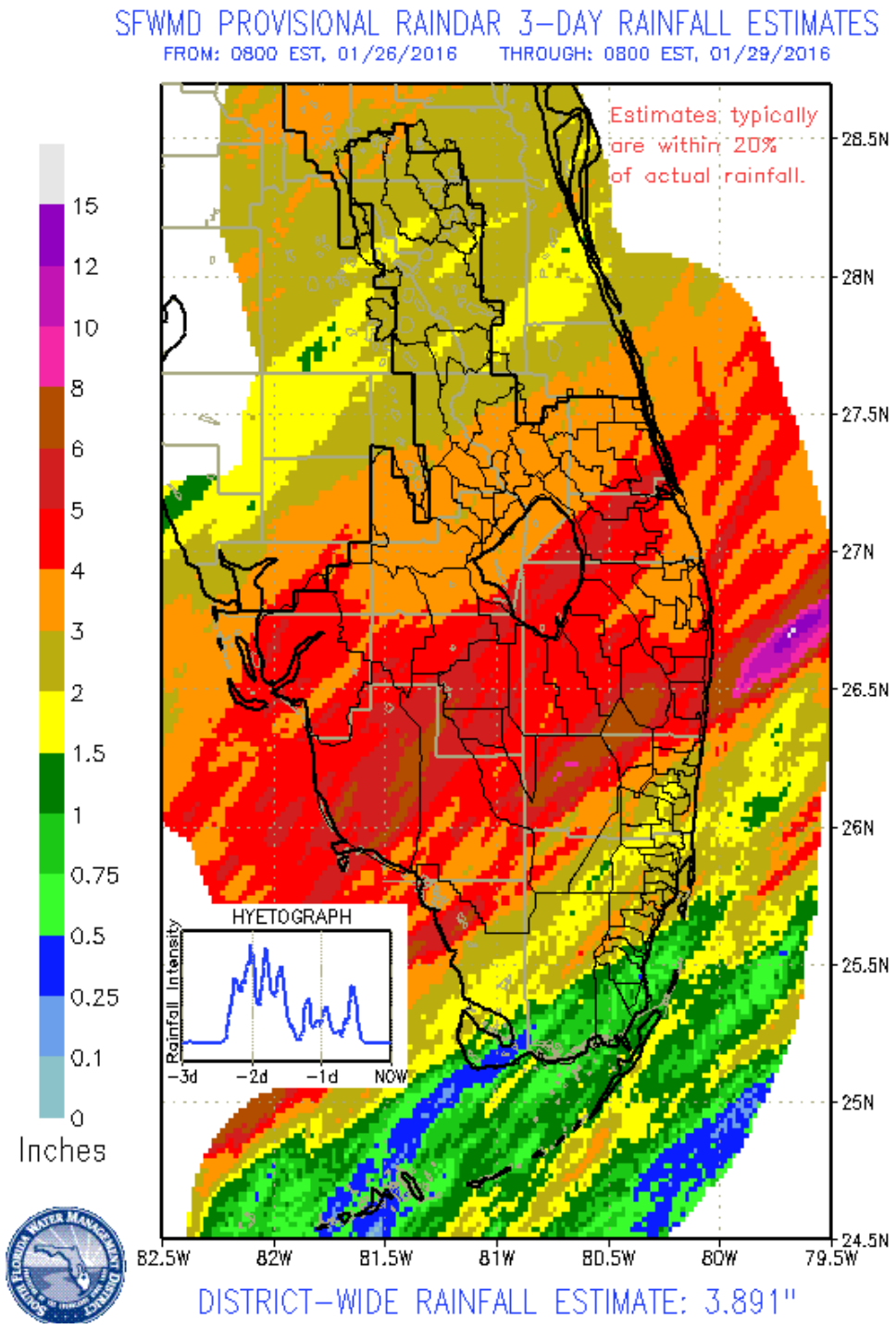


- Regulation Schedule summarize WCA water level thresholds throughout the year
- Current objective is to keep water level between the red and purple lines
- If water levels rise above the red line, mandatory regulatory releases are made to return to the red line and no additional lake water can be sent to the WCA

Rainfall Plan calls for maximum releases from WCA-3A. Currently discharging ~ 2,200 cfs through S-12C, S-12D.

sfwmd.gov

System Constraints for sending water south for the period 01/26/2016-02/01/2016



2-day Rainfall

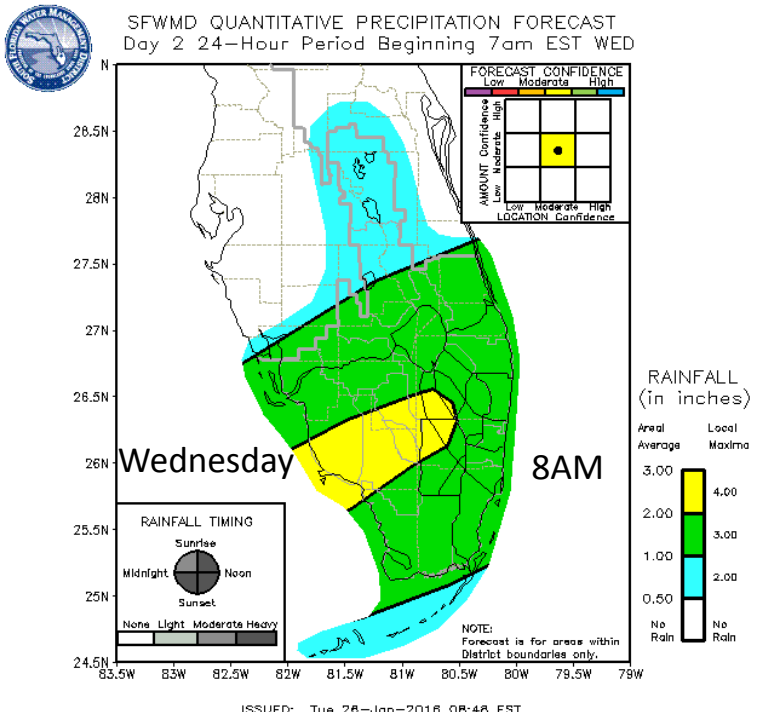
- **Most of the recent event was concentrated on the 3 calendar days Jan-26 to Jan-29 with a total of ~ 3.9” in 3 days**
- **The hardest hit areas show frequencies close to 25 years for the 2-day rainfall depth**
- **Areas showing 6 to 8 inches frequencies are between 5 and 10 years**
- **7 am to 7 am amounts**

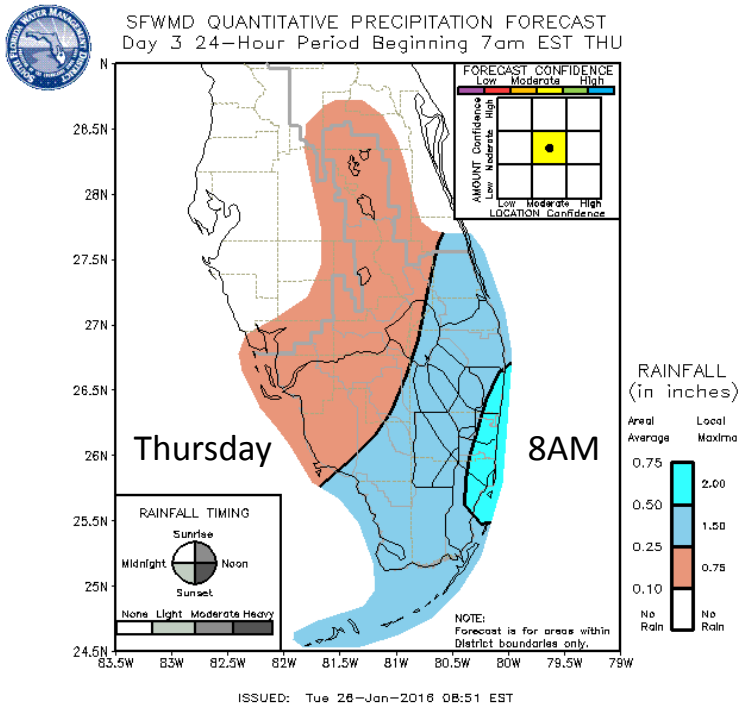
Period	Rainfall (inches)
01/26-01/27	0.97
01/27-01/28	2.27
01/28-01/29	0.89

System Preparation/Response

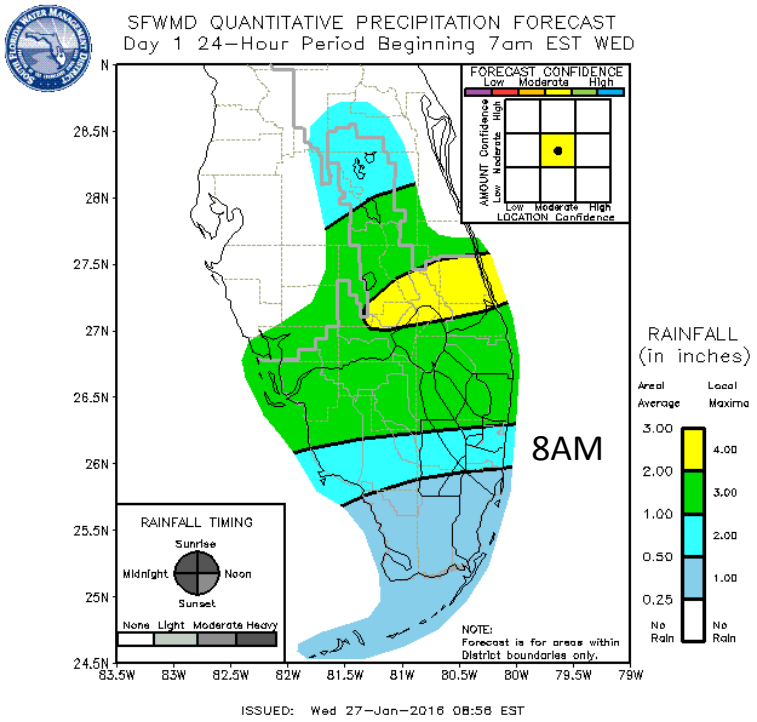
- Monday, Jan-25:
  - Forecast of substantial rainfall over the remainder of the week.
  - Coordinated with USACE to secure approval to implement pre-storm drawdown operations
- Tuesday, Jan. 26:
  - Started drawdown for South Dade canals
  - EAA Canals were lowered
- Wednesday, Jan. 27:
  - Canals in the urban areas were lowered for pre-storm

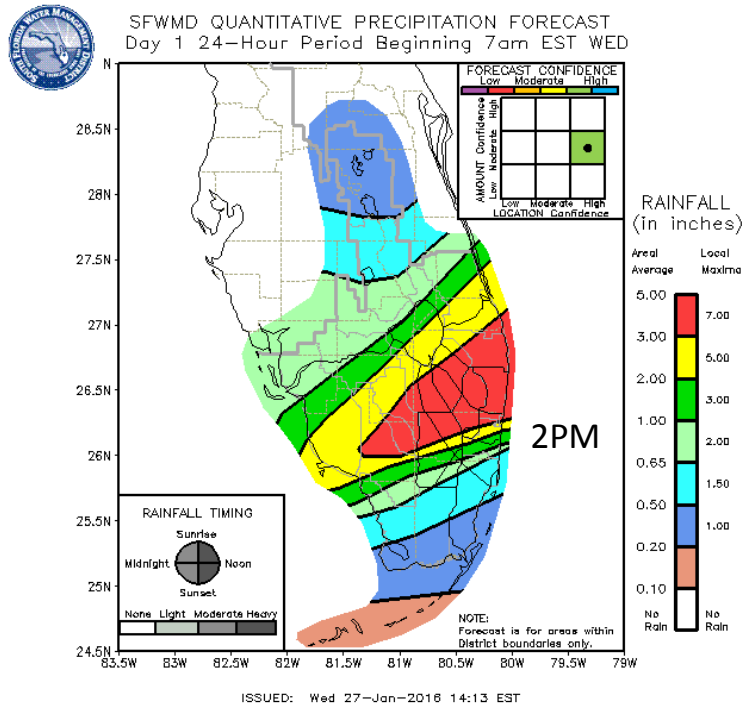
Tuesday Jan-26 District Rainfall Forecast





Wednesday Jan-27 District Rainfall Forecast






LAKE OKEECHOBEE
C10A
S352
L-8
S4
M-Canal
S2
S3
S5
S319
G341
Ocean
C-51
Bolles
Cross
WCA-1
G372
S6
G370
95
S7
WCA-2
S8
WCA-3
FL TPKE
869

S-2 & S-3 Flood Control Events – Since 2004

S-2 Flood Control Events (since 2004)

Dates		# of days	Volume
From	To		[ac-ft]
9/7/2004	9/10/2004	4	9,597
9/22/2004	9/24/2004	3	3,811
9/26/2004	9/29/2004	4	5,535
3/10/2005	3/11/2005	2	2,174
6/2/2005	6/6/2005	5	4,582
2/4/2006	2/6/2006	3	5,671
9/6/2006	9/7/2006	2	2,614
2/13/2008	2/15/2008	3	3,541
8/19/2008	8/24/2008	6	19,361
9/5/2008	9/7/2008	3	7,448
9/30/2008	10/1/2008	2	1,314
3/12/2010	3/15/2010	4	9,277
8/27/2012	9/5/2012	10	36,197
2/15/2013	2/16/2013	2	1,899
6/6/2013	6/12/2013	7	24,430
1/27/2016	1/31/2016	5	19,092

S-3 Flood Control Events (since 2004)

Dates		# of days	Volume
From	To		[ac-ft]
6/7/2005	6/8/2005	2	1,102
2/4/2006	2/5/2006	2	887
8/19/2008	8/23/2008	5	9,108
9/6/2008	9/7/2008	2	621
5/19/2009	5/21/2009	3	1,856
3/13/2010	3/14/2010	2	4,211
8/27/2012	8/29/2012	3	4,199
1/27/2016	1/31/2016	5	12,305

- Total S-2 & S-3 = 31,397 ac-ft
- Equates to approximately ¾ inch on Lake Okeechobee
- As a result of this rain event Lake Okeechobee rose approximately 10 inches (~375,000 ac-ft)

Questions?